

- FOUR PIECES OF STAINLESS STEEL CABLE (WIRE ROPE) AND A WIRE ROPE CLIP.
- A SMALL SHAFT/REVOLVING SPRING LINKAGE,
- ONE ROLLER BEARING AND BOLTS AND WASHERS.

## **CLAIM**

1.0 WHAT I CLAIM AS MY INVENTION IS AS FOLLOWING:

1.1 ENERGY CONSERVATION FLYWHEEL WITH VARIABLE MOMENT OF INERTIA (ECF-VMI)  
PRINCIPAL OF OPERATION.

“ECF-VMI” WILL START TO ROTATE AFTER IT RECEIVES INITIAL SPIN, THRU FLEXIBLE OR A DETACHABLE COUPLING (FC/DC), FROM ANY DRIVING DEVICE. THIS DRIVING DEVICE WILL BE TURNED OFF AND/OR DETACHED THEN THE SUM OF MOMENTS OF EXTERNAL FORCES ACTING ABOUT THE AXIS OF “ECF-VMI” IS ZERO.

INITIAL CENTRIFUGAL FORCES, CREATED BY ROTATION, WILL CAUSE MOVABLE STEEL WEIGHTS (MASS) AND RODS (MASS/RODS) TO START MOVING OUTWARD; MASS MOMENT OF INERTIA OF “ECF-VMI” WILL START INCREASING WHILE ROTATION AND CENTRIFUGAL FORCES WILL START DECREASING. WHEN CENTRIFUGAL FORCES BECOME EQUAL TO THE STEEL SPRING (SSP) FORCE STRETCHED FOR A LENGTH OF MASS/RODS TRAVEL, THEN AT THIS POINT CENTRIFUGAL FORCES AND SPRING FORCE WILL BE IN BALANCE. AFTER AN INSTANT, ROTATION WILL START TO DECREASE (SO CENTRIFUGAL FORCES & KINETIC ENERGY) THEREFORE A SPRING FORCE BECOMES GREATER THAN CENTRIFUGAL FORCES HENCE WILL START TO RETRACT MASS/RODS. WHEN THIS HAPPEN, ROTATION WILL START TO INCREASE (CONSERVATION OF ANGULAR MOMENTUM), ALSO MASS MOMENT OF INERTIA AND CENTRIFUGAL FORCES WILL START INCREASING. UNTIL CENTRIFUGAL FORCES BECOME EQUAL TO A SPRING (SSP) FORCE AGAIN AND AFTER AN INSTANT, ROTATION STARTS TO DECREASE THUS CENTRIFUGAL FORCES START TO DECREASE HENCE A SPRING (SSP) WILL START TO RETRACT IN MASS/RODS. THIS INCREASES ROTATION (CONSERVATION OF ANGULAR MOMENTUM); INCREASED ROTATION WILL CAUSE INCREASE OF CENTRIFUGAL FORCES (ALSO KINETIC ENERGY) AND SO ON PROCESS WILL CONTINUE TO CYCLE. NOW DRIVING DEVICE CAN BE TURNED OR COUPLED ON IN ORDER TO USE “ECF-VMI” STORED ENERGY.

THIS DEVICE ROTATES IN HORIZONTAL PLANE.

FRICTION LOSSES ARE NEGLECTED IN THE ABOVE EXPLANATION.

MORE EFFICIENT OPERATION OF THIS FLYWHEEL WOULD BE IF MAGNETIC BEARINGS ARE USED (INSTEAD MACHINE BEARINGS) AND IF IT OPERATES IN A VACUUM CANISTER!

THERE IS NO SIZE/MASS LIMIT OF THIS DEVICE, AND ONE CAN ONLY IMAGINE WHAT MAGNITUDE OF CENTRIFUGAL FORCES AND KINETIC ENERGY MAY BE ACHIEVED WITH A RIGHT SIZE AND ROTATION.

MOVABLE WEIGHTS (MASS) MAY BE OF DIFFERENT SHAPE THAN A SPHERE.

1.2 ENERGY CONSERVATION FLYWHEEL WITH VARIABLE MOMENT OF INERTIA (ECF-VMI) DEVICE.

1.3 FLYWHEEL (FW) IN THE SHAPE OF A TOP WHICH CONSISTS OF A DISK AND A HOLLOW SHAFT. DISK IS OF RIGID MATERIAL (STEEL); HAS FOUR BORED (FINE MACHINED) 90 DEG. APART HOLES (CYLINDERS) FROM CIRCUMFERENCE TOWARD CENTER; ALSO HAS FOUR OVAL CUT-OFFS NEAR THE CENTER EQUALLY SPACED. HOLLOW SHAFT IS OF RIGID MATERIAL (STEEL) AND IT HAS FOUR, PERPENDICULAR TO A SHAFT AXIS, HOLES (FINE MACHINED). THESE HOLES HAVE INLET/OUTLET BELLS.

1.4 THE FOLLOWING ASSEMBLY: A WEIGHT (MASS), A FINE MACHINED PISTON/ROD TREADED ON ONE SIDE AND HAS AXIAL HOLE AND TWO RADIAL HOLES (TREADED) ON OTHER SIDE. STEEL CABLES AND CABLES CLIP, ROTATING SPRING, BEARING AND A TENSION BOLT/NUT.

DESCRIPTION OF OPERATION OF THE ENERGY CONSERVATION FLYWHEEL WITH VARIABLE MOMENT OF INERTIA MODEL "ECF-VMI-01" (SHOWN ON DRAWINGS) AND IS IN PRODUCTION.

"ECF-VMI-01" WILL START TO ROTATE AFTER IT RECEIVES INITIAL SPIN, THRU A FLEXIBLE COUPLING AND/OR A DETACHABLE CLUTCH (FC/DC), FROM ANY DRIVING DEVICE. THIS DRIVING DEVICE WILL BE TURNED OFF AND/OR DETACHED SO THEN THE SUM OF MOMENTS OF EXTERNAL FORCES ABOUT THE AXIS IS ZERO.

LET THE INITIAL (OR POINT #1) SPIN BE 52 rad/s, THEN MASS MOMENT OF INERTIA WILL BE 0.2116 (slug-ft<sup>2</sup>), CENTRIFUGAL FORCES CREATED BY ROTATION AND ACTING ON SPHERES (SS/R) WILL BE 750.4 lbs AT THIS POINT. THIS WILL CAUSE STEEL SPHERES (SS/R) TO START MOVING OUTWARD, MASS MOMENT OF INERTIA WILL START INCREASING (AT FINAL OR POINT #2 WILL BE 0.3208 slug-ft<sup>2</sup>), ROTATION/CENTRIFUGAL FORCES WILL BE DECREASING (34.3 rad/s AT POINT#2); KINETIC ENERGY WILL BE DECREASING ALSO. AT POINT #2 CENTRIFUGAL FORCES (431.2 lbs) WILL BECOME EQUAL TO THE STEEL SPRING (SSP) FORCE (431.2 lbs) STRETCHED FOR A LENGTH OF THE SPHERES (SS) TRAVEL. THEREFORE CENTRIFUGAL FORCES AND A SPRING FORCE WILL BE IN BALANCE. FURTHER ROTATION DECREASING (SO CENTRIFUGAL FORCES) WILL CAUSE SPHERES (SS) TO START RETRACTING

UNDER THE SPRING (SSP) FORCE. WHEN THIS HAPPEN, ROTATION WILL START TO INCREASE (CONSERVATION OF ANGULAR MOMENTUM) HENCE CENTRIFUGAL FORCES WILL INCREASE (KINETIC ENERGY TOO) ALSO. (SS/B) WILL BE MOVING OUTWARD UNTIL CENTRIFUGAL FORCES BECOME EQUAL TO THE SPRING (SSP) FORCE. AGAIN, WHEN ROTATION STARTS TO DECREASE CENTRIFUGAL FORCES WILL START TO DECREASE HENCE THE SPRING (SSP) WILL START TO RETRACT STEEL SPHERES (SS/R) IN AND THUS MASS MOMENT OF INERTIA WILL DECREASE BUT ROTATION WILL START INCREASING (CONSERVATION OF ANGULAR MOMENTUM). INCREASED ROTATION WILL CAUSE INCREASE OF CENTRIFUGAL FORCES (ALSO KINETIC ENERGY); THE STEAL SPHERES (SS/R) WILL START MOVING OUTWARD AND SO ON PROCESS WILL CONTINUE TO CYCLE.

NOW DRIVING DEVICE CAN BE TURNED OR COUPLED ON IN ORDER TO USE "ECF-VMI-01" STORED KINETIC ENERGY.

THIS DEVICE ROTATES IN HORIZONTAL PLANE.

FRICTION LOSSES ARE NEGLECTED IN THE ABOVE EXPLANATION.